Amendments to the Claims

The listing of claims below will replace all prior versions and listings of claims in the present application.

Claim Listing

1. (Previously Presented) A computer-implemented method of rendering data for producing a full parallax autostereoscopic display of a digital scene, comprising the steps of:

defining an image plane that passes through at least a portion of said scene;

dividing the image plane into a plurality of contiguous image elements;

simulating two camera frustra on opposing sides of said image plane, each camera frustrum having an associated eyepoint;

defining a near clipping plane of said frustra on said image plane;

for each image element, determining a distance between said eyepoint and said near clipping plane that would avoid near clipping of said scene, thereby determining a set of near clipping plane distances;

positioning said camera frustra along a z axis in accordance with one or more of said near clipping plane distances;

generating, for each of said elements,image data for each of said cameras; and

combining said image data, thereby rendering said scene.

2. (Original) The method of Claim 1, wherein the method is performed to produce holograms, and wherein said generating step provides holographic image data.

3. (Original) The method of Claim 1, wherein said positioning step provides a single near clipping plane distance for all of said elements.

4. (Original) The method of Claim 1,wherein said positioning step provides near clipping plane distances within a predetermined range.

5. (Original) The method of Claim 1, further comprising the step of identifying degenerate elements for which said determining step will not result in avoiding clipping.

6. (Original) The method of Claim 5, wherein the method is performed to produce a hologram, and further comprising the step of rendering image data for said degenerate elements by special compositing of images from said camera frustra.

7. (Original) The method of Claim 5, further comprising the step of rendering image data for said degenerate elements by repositioning said camera frustra in a direction parallel to said image plane.

8. (Original) The method of Claim 1, wherein said scene is comprised of polygons, and said determining step compares z vertices of said polygons with a z distance of said clipping plane.

9. (Original) The method of Claim 1, further comprising the step of evaluating said image data for depth resolution and compensating said image data based on said evaluating step.

10. (Previously Presented) A full parallax autostereoscopic print of a digital scene, whose image data is rendered according to the following steps:

defining an image plane that passes through at least a portion of said scene;

dividing the image plane into a plurality of contiguous image elements;

simulating two camera frustra on opposing sides of said image plane, each camera frustrum having an associated eyepoint;

defining a near clipping plane of said frustra on said image plane;

for each of said contiguous image elements, determining a distance between said eyepoint and said near clipping plane that would avoid near clipping of said scene, thereby determining a set of near clipping plane distances;

positioning said camera frustra along a z axis in accordance with one or more of said near clipping plane distances;

generating, for each of said contiguous image elements, image data for each of said cameras; and combining said image data, thereby rendering said scene.

11. (Previously Presented) A computer-readable medium whose contents cause a computer system to render image data for a full parallax autostereoscopic display, by performing the steps of:

defining an image plane that passes through at least a portion of said scene;

dividing the image plane into a plurality of contiguous image elements;

simulating two camera frustra on opposing sides of said image plane, each camera frustrum having an associated eyepoint;

defining a near clipping plane of said frustra on said image plane;

for each of said contiguous image elements, determining a distance between said eyepoint and said near clipping plane that would avoid near clipping of said scene, thereby determining a set of near clipping plane distances;

positioning said camera frustra along a z axis in accordance with one or more of said near clipping plane distances;

generating, for each of said contiguous image elements, image data for each of said cameras; and

combining said image data, thereby rendering said scene.

12-17. (Cancelled)